Revision E

Development and Utilization of Annual Operating Agreements (AOA)

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Chief, Safety and Mission Assurance

January 26, 2009
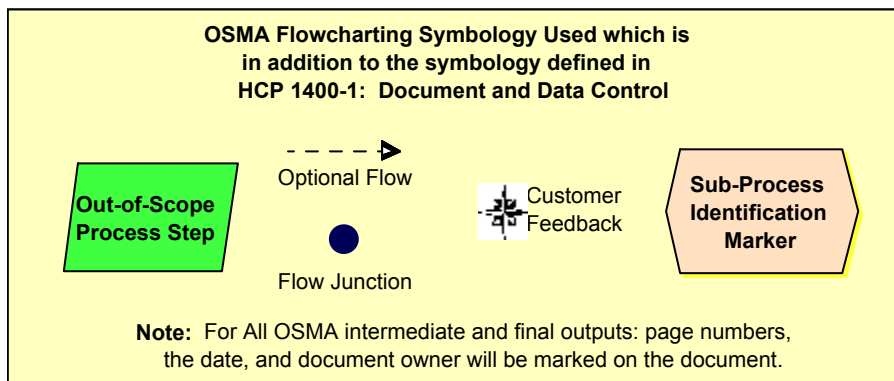Date

DOCUMENT HISTORY LOG

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Baseline		January 13, 2000	
Revision	A	April 14, 2000	Editorial corrections to Section 5 flowchart formatting and steps 6.03, and 6.04; Modified step 6.05, and 6.07 retention to 2nd Quality Record (new #) in Section 7; Added new 1st Quality Record.
	B	February 1, 2002	Added customer list, customer feedback to sections 5 and steps 6.03, 6.04, and 6.07. Editorial corrections to step 6.02. Technical correction to steps 6.04 and 6.05
	C	March 31, 2004	Editorial and organizational changes to all sections.
	D	November 9, 2007	Editorial and organizational changes to all sections
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**OSMA Flowcharting Symbology Used which is
in addition to the symbology defined in
HCP 1400-1: Document and Data Control**

- – – – ▷
Optional Flow

**Out-of-Scope
Process Step**

●
Flow Junction

Customer
Feedback

**Sub-Process
Identification
Marker**

Note: For All OSMA intermediate and final outputs: page numbers,
the date, and document owner will be marked on the document.

1. Purpose

The purpose of this Office of Safety and Mission Assurance (OSMA) Headquarters Office Work Instruction (HOWI) is to document the process for providing guidance to and management of the development of the Annual Operating Agreements (AOA) by NASA Centers and ensuring approval of the AOAs by NASA Management. This OSMA HOWI also specifies the Quality Records associated with the process.

2. Scope and Applicability

This HOWI is applicable to the Chief, Safety and Mission Assurance (Chief SMA), the OSMA Mission Support Division (MSD), the OSMA Safety and Assurance Requirements Division (SARD), the OSMA Center Point of Contact (POC), and the OSMA AOA Manager.
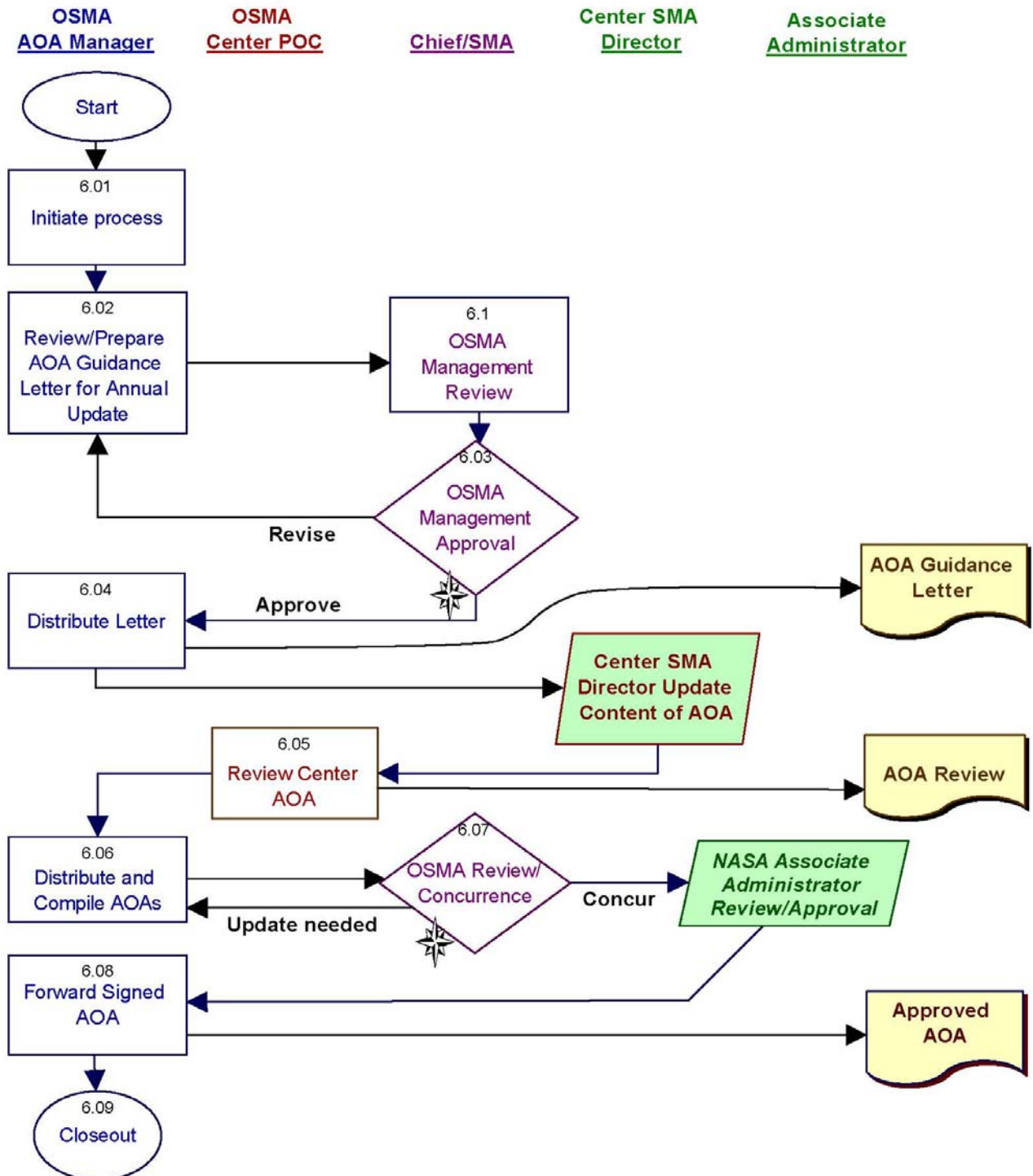
3. Definitions

3.1.   Annual Operating Agreement (AOA): A NASA Center SMA management plan which defines customer requirements, SMA processes, resources required to meet SMA customer requirements, and the metrics defining effectiveness and efficacy of SMA processes.

3.2.   Chief SMA: Chief, Safety and Mission Assurance

3.3.   MSD: Mission Support Division

3.4.   OSMA: Office of Safety and Mission Assurance

3.5.   POC: Point of Contact

3.6.   NSC: NASA Safety Center (Office of Audits and Assessments)

3.7.   SMA: Safety and Mission Assurance

4. Reference Documents

The documents listed in this section are used as reference materials for performing the processes covered by the Quality Management System (QMS). Since all NASA Headquarters Level 1 (QMS Manual) and Level 2 (Headquarters Common Processes) documents are applicable to the QMS, they need not be listed in this section unless specifically referenced in this OSMA HOWI.

4.1.   NPD 8700.1: *NASA Policy for Safety and Mission Success*

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5. Flowchart

6. Procedure

6.01 AOA Manager   Initiate Process

Annually, the process will normally commence in April for all AOAs. The process can also be initiated at any time at the request of the Chief SMA, if it is felt that a Center AOA update is needed. Appendix A provides the AOA performance specification for this process.

6.02 AOA Manager   Review and Prepare AOA Guidance Letter for Annual Update

The previous year's AOA Guidance Letter is reviewed and updated to reflect current NASA SMA strategies per updates to NASA policies and strategic planning. The letter is prepared for Chief SMA signature. The target is for the annual AOA Guidance Letter to reach the Center Directors on or before July 1.

6.03 Director MSD   OSMA Management Review

The MSD Director reviews and concurs with the guidance letter before it is signed by the Chief SMA.

6.04 Chief SMA   OSMA Management Approval

The Chief SMA reviews and signs the letter.

6.05 AOA Manager   Distribute Letter:

The signed AOA Guidance Letter is distributed to the Center Directors with copies to the NASA Associate Administrator and Center SMA Directors. The letter is filed as a quality record as Chief SMA Correspondence per HOWI 1450-GB27.

The Center Directors, Center SMA Directors, and other Center organizations with SMA functional responsibilities will update the Center AOA to conform to the AOA guidance letter, Center and Agency policies, and strategic plans. The updated Center AOA, with appropriate signatures, is submitted to the AOA Manager, who provides a copy to the Center POC and appropriate organizations for review. The AOA Manager develops an endorsement letter which is signed by the MSD Division Director and the AOA is then forwarded to the Chief SMA for review and approval.

6.06 OSMA Center POC   Review Center AOA

The OSMA Center POC serves as the primary interface with the Center's SMA management for the development of the AOA. The POC tracks the center's SMA goals, objectives, and metrics, and provides these results as inputs to the Center SMA Director's annual performance review.

6.07   AOA Manager   Distribute and Compile AOAs

The AOA Manager distributes copies of the AOA to OSMA SARD and the appropriate organizations affected by the AOA (e.g., environmental, security, medical) for review and comment. After receiving all comments, the AOA Manager then coordinates comments and compiles the individual AOAs and prepares a signature package for OSMA management review and concurrence of the AOAs. The signature package contains the Center AOAs, the OSMA Center POC AOA review comments, and any additional supporting materials needed.

6.08   Chief SMA   OSMA Review/Concurrence:

The AOAs are reviewed by the Director, Mission Support Division, Deputy Chief SMA and the Chief SMA. The Deputy Chief concurs on the AOA and forwards it to the Chief SMA, who then concurs on the Center AOA by signing it.

After concurrence by the Chief SMA, the AOA is forwarded to the NASA Associate Administrator for signature. Afterwards, the AOA is returned to the OSMA AOA Manager for distribution and filing.

6.09   AOA Manager   Forward Signed AOAs:

The AOA Manager distributes the signed AOA signature pages to the Centers and to the OSMA Center POC. The Approved AOA is filed as a Quality Record.

6.10   AOA Manager   Closeout

When all work is done and the Quality Records have been filed, then the process is closed out. However, the current AOA provides useful information and must be easily accessible to the Chief SMA, audit managers and SMA organizational personnel requiring Center information.

7. Quality Records

Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
AOA Guidance Letter	OSMA Corres Control	OSMA Chron File	Hardcopy	Schedule: 1 Item: 22	Retire to FRC after becoming 5 years old in 5 year blocks, then retire to NARA when 10 years old
AOA Review	AOA Manager	AOA Manager Files	Hardcopy	Schedule: 1 Item: 7.A	Retire to FRC 2 years after AOA completion then transfer to NARA 10 years after AOA Completion

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Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
Approved AOA for each Center with any transmittal letters and associated gap analyses	AOA Manager	AOA Manager Files	Hardcopy	Schedule: 1 Item: 7.A	Retire to FRC 2 years after AOA completion then transfer to NARA 10 years after AOA Completion

Appendix A: Performance Specification:

The OSMA AOA Process Should:

- Ensure that AOA content supports important Agency-wide SMA initiatives; e.g., SMA management, safety, reliability, maintainability, risk management, quality and software assurance.

- Ensure availability and accessibility of Center AOA documents, from either a filing cabinet (quality records), and/or beginning FY 2009, electronic medium.   Older AOA documents should be accessible from official Government storage if required.

- Facilitate the identification of resource shortfalls by Center's SMA organizations and document mitigation plans to address these shortfalls.

- Include metrics—not just descriptive information, but actual display of metrics data in graphical format, including at least annually reporting on status of previous year's performance against the declared metrics.

- Support Center SMA organizational business processes.

- Provide feedback to the Centers; i.e., copies of signed AOAs and any feedback or concerns resulting from the review process.

Appendix B: SAFETY AND MISSION ASSURANCE

ANNUAL OPERATING AGREEMENT GUIDANCE

OVERVIEW

This AOA guidance provides the minimum requirements and guidelines for the development of AOAs at each Center and respective Component Facilities. Annual Operating Agreements (AOAs) are Center Safety and Mission Assurance (SMA) management plans, focused on customers for SMA products and services. AOAs establish the planning and execution processes to assure available SMA resources are properly allocated for mission success. They are directly linked to the NASA Strategic Management Process, as described in NPD 1001.0, NASA Strategic Plan, and NPD 8700.1, NASA Policy for Safety and Mission Success. The AOA should be consistent with, and integrated into, the Center's Implementation Plan.

Specific to each Center, the AOA process does three things: (1) assures *planning* for SMA functions to meet the institutional, program, and project requirements; (2) establishes a basis for *negotiation* at the Center level on resource allocations necessary to meet institutional, program, and project requirements; and (3) uses metrics for *management* to evaluate the efficacy and efficiency of SMA processes. Three basic questions that must be answered in an AOA: "What are the customer's requirements?" "How effectively were my customer's requirements met?" and "How efficiently were the Center's SMA resources used to meet these requirements?"

An AOA should include both Agency SMA requirements and Center-unique SMA customer requirements. The AOA should also include definitions of these requirements, descriptions of SMA processes and activities to meet these requirements, resource allocations to meet these requirements, and realistic metrics for determining the value and efficiency of the SMA processes and activities.

The AOA should include activity or process descriptions for *all* of the SMA functional areas that are managed by the Center SMA organization, as well as for those areas of OSMA functional cognizance which are not managed by the Center SMA organization (i.e., environmental, fire protection, aviation safety, etc.,) as described in NPD 8700.1. For the SMA functional areas under the *cognizance* of the Chief, Safety and Mission Assurance, goals and metrics are not required, but rather a description of the SMA interface and resources committed to maintain cognizance should be addressed.

Appendices I through V provide additional guidance for AOA content. These appendices include:

Appendix I - Guidelines to aid development of an AOA;

Appendix II - Format to describe resource allocations for processes;

Appendix III - List of Centers and Component Facilities to be included in AOA;

Appendix IV - List of safety and mission assurance processes;

Appendix V - Coordination of Risk-Informed Decision Making (RIDM) and Continuous Risk Management (CRM) within the NASA Hierarchy Model

A.   Responsibility

The following responsibilities apply to the AOA:

1.   Agency Chief, Safety and Mission Assurance — Concur on the Centers' SMA AOA

2.   Associate Administrator — Approve AOAs (AOAs will be forwarded after approval by OSMA for Agency AA approval)

3.   Center Directors — Develop and approve the Center's SMA AOA

4.   Center SMA Functional Manager — Formulate the Center SMA AOA, provide the Safety and Mission Assurance products and services described in the AOA, and manage the delivery of SMA products and services in accordance with the AOA.

A Center's SMA organization will also obtain input and concurrence on the AOA from other Center organizations that have management cognizance of SMA functional areas at the Center as described in NPD 8700.1, but not under the management cognizance of the SMA Director. This includes a Center's Component Facilities.

B.   Contents of the AOA

Required components of the AOA include:

1.   **Signature Page** — Include signatures and signature blocks for Center Director, NASA Associate Administrator, Chief, Safety and Misson Assurance (concurrence), Center SMA Director, Center Management, areas of SMA functional cognizance (if required). Identify signatories by title and name.

2.   **Table of Contents** – See example in Section G of this Appendix

3.   **Executive Summary –** Should succinctly address salient management concerns and focus on planned year's activities/goals/challenges

4.   **Introduction** — Briefly describe the AOA and the AOA Purpose, as described in the current AOA Guidance Letter. Also, include in this section the SMA organizational chart.

5.   **Center SMA Mission** — Provide a brief description of your Center's SMA role and mission. Please include internal organizational charts which are useful here. Identify any SMA functional responsibilities included in NPD 8700.1 but which are not under the management responsibility of the Center SMA Director.

6.   **Macro-metrics** — Include macro-metrics to measure the SMA organization's performance in meeting top level SMA goals. Macro-metrics are selected metrics that most clearly indicate how well the organization is meeting its goals. They are designed to measure significant organizational goals and to show trends useful to senior management for process improvement.

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7. **Customer Feedback –** Include information on customer feedback related to the organization's performance in meeting its metrics (awards, letters, survey results, etc.)

8. **Planning Assumptions** — Provide the planning and resource assumptions used to develop the AOA. These assumptions can include, but are not limited to, projected funding increases or decreases, funding reserves, FTE increase or decrease, new program/project starts, program/project completion, anticipated changes to ongoing programs, response to Headquarters directed initiatives, etc.

9. **Resource Allocations for each Process** (use format provided in Appendix II).

10. **Resource Threats and Associated Risks** — The internal process of AOA development and update should help determine resource shortfalls (human, financial, capital equipment, etc.). Where these shortfalls/issues have not been resolved, they should be identified and included in the AOA with a plan for resolving the shortfall or managing the resultant risk within the Center/Project. Details should be submitted as reported on the Statement of Assurance, required by NPD 1200.1D, NASA Internal Control

11. **Linkages** — Describe the linkages between the AOA and strategic planning documents used by other organizations in NASA with which the Center SMA organization must interface to perform its mission. A URL may be included in lieu of a description if HQ is able to access the link.

12. **Critical Deliverables –** The Centers may include a list the key deliverables associated with the goals and metrics for the year; This information could be useful for the Chief, Safety and Mission Assurance in developing performance evaluation input. However, this is not required information.

C.   Processes/Activities for Special Attention

AOAs should identify processes and activities that support OSMA areas of special attention. These include:

1. **Risk Management** — The AOA should include risk management consulting in the AOA as a service provided by SMA organizations to Programs/Projects and Center Mission Support Offices. This service includes assistance to program/project managers in satisfying the risk management requirements of the NPR 8000.4A, "Agency Risk Management Procedural Requirements" and NPR 7120.5D, "NASA Program and Project Management Processes and Requirements." SMA organizations should be prepared to provide technical assistance to programs/projects and Center Directors in the following areas:

   • Preparation of Risk Management Plans,

   • Implementation of the risk management activities throughout the life cycle of programs and projects, including acquisition,

   • Management of institutional and cross-cutting risks, and

   • Coordination of risk management activities across Center's organizational units.

   NPR 8000.4A defines risk management in terms of two complementary processes: Risk-informed Decision-making (RIDM) and Continuous Risk Management (CRM). The RIDM process fosters proactive risk management: to better inform decision-making through better use of risk information and the CRM process focuses on the baseline performance requirements emerging from the RIDM process. Appendix V provides a process illustration of the Coordination of RIDM CRM within the NASA Hierarchy.

2. **Mishap Reduction** — The AOA should identify the processes that are in place or will be initiated to reduce or eliminate mishap experiences. As a minimum, these will include the elements of 29 CFR 1960 that are asterisked in the latest Occupational Health and Safety Administration (OSHA) Checklist for Occupational Safety distributed to Center safety organizations. The source document for this is the OSHA Baseline Questionnaire. Line managers responsible for the prevention of employee injuries and property damage due to mishaps should be identified. For mishap reduction processes, the AOA should demonstrate that a monitoring system, such as the Incident Reporting Information System (IRIS), and an appropriate campaign is used to report, track, measure, and reduce close call incidents encountered at the Center. Mishap investigation processes should demonstrate identification of root cause and contributing factors to prevent reoccurrence of the mishap.

3. **Training** — The AOA should identify the processes for developing, institutionalizing, utilizing, and continually improving the comprehensive and properly documented training and career development programs for NASA SMA professionals. These processes should include tracking metrics for student participation and course selection and utilization.

4. **Software Assurance** — The AOA should include software assurance activities. In particular, the AOA should identify the processes for implementation of a Software Assurance program that reduces the technical and programmatic risk associated with the delivery of software meeting NASA's technical, schedule, and budgetary needs.

5. **ISO 9001/AS9100** — Where appropriate, the AOA should identify the SMA processes that are either ISO 9001 or AS9100 certified or planned to be certified in accordance with the NASA Quality Assurance Program Policy.

6. **NSC Independent Audits and Reviews** – The AOA should include a high level status of corrective action closures for Institutional Facility Operational (IFO) Safety Audits, Institutional Programmatic Support Audits, or Programmatic Audit and Reviews conducted at the Centers.

D. **Schedule**

- June: The AOA guidance and call letter is signed by the Chief, Safety and Mission Assurance, and then distributed to the Centers.

- Mid November: Centers forward approved and signed AOAs for the next Fiscal Year to NASA Headquarters OSMA for OSMA concurrence and forwarding to Associate Administrator.

E. **Approvals**

AOAs are considered to be a negotiated agreement among Center SMA customers, other Center organizations responsible for performing the safety compliance functions, the SMA organization, and the Center Director. They are approved and signed by the Center SMA Director, the Center Director, and the Headquarters Mission Directorates, and are concurred on by the Chief, Safety and Mission Assurance. Customer or other Center organizations' signatures are also encouraged if appropriate.

Approval of the AOA by the Center Director

Approval of AOAs by the Center Director assures that the requested level of SMA support to the Center and Mission Directorate programs and projects is provided in terms of resources (funding and FTEs) and ensures that the appropriate SMA (safety , reliability, maintainability, quality and software assurance, etc.) activities are provided to the Center and mission directorates for the management of risk.

AOA Concurrence by the Chief Safety and Mission Assurance

Concurrence on AOAs by the Chief, Safety and Mission Assurance demonstrates that OSMA has reviewed the AOA, agrees that appropriate processes and levels of SMA support to the Centers, programs and projects are provided, and concurs that accepted risks are appropriate to maximize mission success.

AOA Approval by the Deputy Associate Administrator

Approval of an AOA by the Deputy Associate Administrator demonstrates Agency review, evaluation, and modification, if necessary, of the AOA, commits appropriate levels of SMA support in terms of resources (funding and FTEs), and agrees that the accepted risks are appropriate to maximize mission success.

F. **Transmittal of AOAs**

A signed, original AOA should be provided to OSMA, addressed to Chief, Safety and Mission Assurance plus an electronic copy in PDF format to the AOA Manager. Both the MSD and the SARD have the responsibility for review of AOAs. MSD is responsible for forwarding the AOAs for OSMA concurrence and for AA approval. A final approved and signed copy of the AOA will be returned to the Center SMA organization.

G. **Table of Contents Example**

1. Executive Summary
2. Introduction
    2.1. Purpose
    2.2. Center SMA Organizational Chart
3. SMA Mission-Function-Process Descriptions
    3.1. Center Safety and Mission Assurance Vision (optional)
    3.2. Center SMA Charter (optional)
    3.3. Strategic Linkages (Centers may include information or URL if accessible by HQ)
    3.4. Center SMA Functional Disciplines, Goals, and Performance
        3.4.1.   Functional Group "A" (example)
            3.4.1.1. FY08 Goals and Performance
            3.4.1.2. FY09 Goals and Metrics
        3.4.2.   Functional Group "B"
            3.4.2.1. FY08 Goals and Performance
            3.4.2.2. FY09 Goals and Metrics
        3.4.3.   Other Functional Groups (if applicable)
4. Center Safety and Institutional Metrics
5. Customer Feedback Process and Summary Results
6. Planning Assumptions (NASA Requirements, SMA Workforce, budget, etc.)
7. Current Year and Out-year Resource Plan
8. Resource Threats and Associated Risks
    HQ preference is to submit information as reported in the Statement of Assurance

APPENDIX I: AOA Guidelines

The following are questions and suggestions that should be considered when developing the AOA content. Current Headquarters and Center policy and planning documents should also be reviewed.

1. Planning
   - How do the SMA organization goals and objectives relate to NASA's, OSMA's, and the Center's strategic planning process?
   - Are customers clearly identified by name?
   - Are the process descriptions clearly stated?
   - Do the budgets and human resource allocations make sense for a given process?
   - Are metrics included? Are they achievable, useable metrics that contribute to continuous improvement?

2. Management
   - Can the SMA organization manage in accordance with the AOA?
   - Does the introduction provide sufficient information to make the AOA a stand-alone management document?
   - Is the AOA consistent with, and integrated into, the Center's Implementation Plan?
   - Is a functional organizational chart included?
   - Are the underlying assumptions stated?
   - Are macro-metrics identified? (These are the top-level metrics used by the SMA Director to determine the health of the organization's processes.) Are the macro-metrics tracked by the Center SMA organization's management as a tool for process improvement?
   - Are resource threats and associated risks identified along with a plan for internally meeting the shortfalls and addressing the issues?
   - Does the AOA reflect "new ways of doing business" (e.g., customer focus, value added, oversight and coordination where appropriate, etc.)?

3. Institutional Functions
   - Is the Center's Operational Safety Program meeting the basic OSHA requirements to implement OSHA Standard 29 CFR 1960 with its current manpower and resources?
   - Are "asterisked" items in the OSHA Standard 29 CFR 1960 Checklist (OSHA citables and "Notice of Violations") complied within identified processes?
   - Based on your knowledge of the performance of the OSHA program at your Center, do you consider the processes and associated resources listed in the AOA to be adequate?
   - Do the process descriptions and metrics address the Operational Safety Program (NASA Safety Reporting System, Fire Protection and Configuration Management coordination efforts, Facility Safety, Workplace and Laboratory Safety, Confined Space Entry, Pressure Systems, Lifting Devices, Explosive Safety and other hazardous operations, Safety Training and Awareness Programs, etc.)?
   - What are the overall metrics for the Operational Safety Program?

➢ Are operational safety linkages to the various NASA Programs and Projects at the Center identified? Are the AOAs coordinated with and concurred on by other Center organizations that actually perform the safety compliance functions?

➢ What evaluation process is in place to assess how well the Operational Safety Program is performing at the Center? What is the list of outstanding operational safety-related activities that may not be accomplished due to the limited resources?

➢ Is the mishap reporting process defined? Are the reporting metrics appropriate?

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APPENDIX II

RESOURCE ALLOCATIONS FORMAT

0	1	2	3	4	5	6	7	8	9	10	11	12
PRIORITY	LINE ITEM NUMBER	ACTIVITY	WORK PROCESS	ENTERPRISE CUSTOMER	MINIMUM EFFECTIVE CS FTE	CUM. CS FTE	COST FOR CS SUPPORT	COST FOR NPS	OTHER CONTRACT COST	TOTAL CONTRACT COST (8+9)	TOTAL COST (7+10)	CUM. COST
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3												
4												
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APPENDIX III

<u>NASA Centers and Component Facilities To Be Included in AOA</u>

Ames Research Center

Dryden Flight Research Center

Goddard Space Flight Center

- Wallops Flight Facility

- Independent Verification and Validation Facility

Jet Propulsion Laboratory/Pasadena, CA

- JPL Deep Space Network

- Goldstone/Barstow, CA

- Madrid, Spain

- Canberra, Australia

Johnson Space Center

- White Sands Test Facility

- NASA Industrial Plant,

- Palmdale, CA

Kennedy Space Center (KSC)

- KSC/Vandenberg Launch Facility, CA

Langley Research Center

Glenn Research Center

- Plum Brook Station, OH

Marshall Space Flight Center

- Michoud Assembly Facility, LA

- Santa Susana Field Laboratory, CA

Stennis Space Center

APPENDIX IV

List of Safety and Mission Assurance Processes to be Included in AOAs

- Emergency Preparedness (interface with OSHA)
- NASA Safety Reporting System

- Fire Prevention/Protection
- Orbital Debris Minimization

- Mishap Reporting and Investigating
- Facility and Operational Safety

- Facilities Configuration Management
- Reliability and Maintainability

- Facility and Operational Safety:
- Lessons Learned Information

- Aviation Safety (SMA resources committed to coordination and oversight, if any)
- Explosive Safety

  - Exposure to Hazardous Chemicals/Materials

  - Range Safety (delegation to KSC)
- Hazard Communications

- Lifting Devices
- Government/Industry Data

- Pressure Vessel System Safety Exchange Program

- Underwater Facility and Non-Open Water Operations

- Problem Reporting and Corrective Action
- Workplace and Laboratory Safety

- NASA/OSHA Interface
- Interagency Nuclear Safety

- System Safety
- Review Panel (INSRP)

- Quality Assurance
- Software assurance

- Risk Management/Assessment
- SMA Training

- NASA Alert Reporting

APPENDIX V

Coordination of Risk-Informed Decision Making (RIDM) and Continuous Risk Management (CRM) within the NASA Hierarchy (Illustrative)